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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/887,117	06/25/2001	Jang-Kun Song	06192.0177.NPUS00	7333
7590	03/17/2005		EXAMINER	
McGuire Woods LLP 1750 Tysons Boulevard Suite 1800 McLean, VA 22102			LIU, MING HUN	
			ART UNIT	PAPER NUMBER
			2675	

DATE MAILED: 03/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/887,117	SONG ET AL.	
	Examiner Ming-Hun Liu	Art Unit 2675	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 23-33 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 23-33 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    - a) All
    - b) Some \*
    - c) None of:
      1. Certified copies of the priority documents have been received.
      2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
      3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | Paper No(s)/Mail Date: _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date: _____ | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 23-33 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Nowhere in the disclosure of the invention does the applicant teach a "storage electrode."

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 24-26, 28 and 31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims recite the limitation "the switching element". There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claim 23 is rejected under 35 U.S.C. 102(e) as being unpatentable by US Patent 6,140,990 to Schlig.

In reference to claim 23, Schlig teaches in figure 2 a LCD with a plurality of gate lines extending in a row direction and transmitting scanning signals (gate line 25), a plurality of data lines extending in a column direction and transmitting picture signals (data line 15), a plurality of storage electrode line pairs extending in the row direction, each storage electrode line pair comprising first and second storage electrode lines arranged between two neighboring gate lines (11a and 11b). A plurality of first and second pixels arranged alternately in the row direction, each of the first and second pixels including a pixel electrode overlapping the storage electrode line pair a wherein a storage capacitance is formed between the pixel electrode and the storage electrode line and the storage capacitance of the second pixel is formed between the pixel electrode and the second storage electrode line (figure 2 and column 3, lines 25-31).

7. Claims 27 and 29 are rejected under 35 U.S.C. 102(e) as being unpatentable by US Patent 6,489,952 to Tanaka et al.

In reference to claim 27 Tanaka teaches in figure 1 a liquid crystal display comprising a plurality of gate lines extending in a row direction and transmitting scanning signals (G1, G2...), a plurality of data lines extending in a column direction and transmitting picture signals (S1, S2...), a plurality of storage electrode lines extending in the column direction and transmitting storage voltages (com1 and com2). It can be seen from figure 2 that the storage electrode lines and the data lines are alternately arranged; and a plurality of pixels, each of the pixels including a pixel electrode and each storage electrode line intersecting the pixel electrodes wherein the storage capacitance of each pixel is formed between the pixel electrode and the storage electrode line.

In reference to claim 29, Tanaka teaches a display where the storage voltages applied to the neighboring storage electrode lines have inverted waveform (column 8, lines 1-11).

8. Claim 30 is rejected under 35 U.S.C. 102(e) as being unpatentable by US Patent 6,424,328 to Ino et al.

In reference to claim 30, it can be seen from figure 2 of Ino that he teaches a LCD display comprising a plurality of gate lines extending in a first direction and transmitting scanning signals (item 11 m-1, 11m, 11m+1...) a plurality of data lines extending in a second direction and transmitting picture signals (12n-2, 12n-1, 12n ...) a plurality of storage electrode lines extending in the first direction (Cs) transmitting storage voltages, the storage electrode lines and the gate lines being alternately arranged (figure 2); and a plurality of pixels (23) arranged in a matrix, each of the pixels including a first pixel electrode overlapping the storage electrode line. Ino also teaches that the storage capacitances (22) of the pixels on the same row are alternately

formed between the first pixel electrodes (electrode of 23) and two neighboring storage electrodes lines (Cs and Vcom).

***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent 5,790,090 to Libsch et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ming-Hun Liu whose telephone number is **(571)272-7770**. The examiner can normally be reached on Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sumati Lefkowitz can be reached on 571-272-3638. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Ming-Hun Liu

*Sumati Lefkowitz*  
SUMATI LEFKOWITZ  
PRIMARY EXAMINER